Before the
Federal Communications Commission
Washington, D.C.

In the Matter of	**)**	
	)	
Reallocation of the 216-220 MHz,	**)**	**WT Docket No. 02-08**
Government Transfer Bands	**)**	**RM-9854**
	)	**RM-9882**

COMMENTS OF WATCHMAN SERVICES INC.

In response to a "Notice of Proposed Rule Making" issued by the Federal Communications Commissions (FCC) regarding the "reallocation" of the 216-220 MHz band, Watchman Services Inc. hereby submits its comments.

I. Introduction.

Watchman Services Inc. is a potential licensee that proposes to add new services into the 217-220 MHz band. These services would provide farmers, ranchers and agriculture businesses with the capability to monitor irrigation, chemical (fertilizer and pesticides) application, and grain storage through the use of Supervisory Control and Data Acquisition (SCADA) systems. Over the last several years SCADA systems have proven themselves in water utility, manufacture, and gas and oil industries, but only recently has SCADA been applied to agriculture. One of the main limiting factors to the growth of SCADA within agriculture has been the lack of access to reliable and effective communication links.

The following comments are limited to defining the changing demands to the 217-220 MHz band from emerging technologies and new needs. Additionally we request that the decisions requarding the 217-220 MHz band allow for fair and reasonable access to its use, now and in the future.

II. General Comments.

1. Watchmen Services Inc. is concerned that general open market forces within the 217-220 MHz band would permit the generic use of the band by users that do not require the unique signal characteristics of this band. These users would consume valuable channel allocations within the 217-220 MHz band, even when another band would satisfy their needs. This would in effect deny future applicants who could only be served by the characteristics of this band. If allowed, these "open market forces" would restrict growth by prohibiting the people who must use the 217-220 MHz band from access to radio communication. This would be contrary to what the FCC is hoping to achieve.

2. The FCC should consider telemetry and telecommand as a primary use in the 217-220 MHz band. Telemetry and telecommand is a rapidly growing communication type. Its need has been planted by limited natural resources and fertilized by SCADA technologies. Government regulations on water and chemical use have highlighted the need by agriculture to have accurate, continuous monitoring of these resources. However, farming and ranching is rural in nature, so communication resources are scarce or non-existent. Furthermore, a large portion of the terrain is hilly with intermittent blocking obstructions. It is not uncommon for distances to exceed 25 to 30 miles between sections of ground. Agriculture service areas can range from 50 to 75 miles or more.

   The 217-220 MHz band is the only band that provides the inherent physical characteristics satisfying the constraints. The shorter wavelengths i.e., 450-470 MHz or 928-956 MHz do not propagate around or over hills nor do they carry over the horizon.

   Farmers and ranchers need to constantly monitor irrigation and chemical application throughout the growing season. However, physical distances make constant monitoring impossible. Environmental concerns regulated by the Environmental Protection Agency (EPA) have only increased the need for farmers to monitor Chemigation (the application of chemical fertilizers and pesticides through irrigation). These systems require immediate problem notification and remote halt abilities. This means reliable communications, i.e. limited interference. These factors prescribe primary use by telemetry and telecommand in the 217-220 MHz band.

   The promotion of land use would not interfere with Automated Maritime Telecommunication Systems (AMTS). AMTS can be protected by combining 50 mile coastal limits and antenna restrictions.

III. Specific Comments.

1. Issue: Whether to license new services by geographic service areas.

   Comment: Agriculture services lend themselves to geographical areas but not based on metropolitan areas. Geographical partitioning would have to map to rural terrain. Sight by sight management may prove to be more practical in the long term as demand pressures require tighter user boundaries.

2. Issue: Whether to license band managers in these bands.

   Comment: None.

3. Issue: Whether to provide for partitioning and disaggregation of licensed spectrum.

   Comment: We agree that partitioning and disaggregation of the licensed spectrum would increase the versatility of the allocation in the 217-220 MHz band.

4. Issue: Whether secondary telemetry in the 217-220 MHz and 1427-1429.5 MHz bands should be licensed on a site-by-site basis.

   Comment: We agree that licensing within the 217-220 MHz band should be on a site-by-site basis, refer to Issue 1 above.

5. Issue: Whether to add technical specifications to Part 90 of our Rules for telemetry operations.

   Comment: We recommend that no further special eligibility categories be added to Part 90.

   We further recommend that the following technical specifications be adopted:

   - Channel spacing of 5 kHz. – This will increase the channel allocation within the band.
   - Maximum radio output power of 2 watts. – This is adequate power to accomplish communications in this band.
   - Maximum antenna height of 500 feet. – This is adequate height to reach the geographical service area.

6. Issue: Whether to apply the frequency coordination procedures of Section 90.175 to authorization of future telemetry operations.

   Comment: We agree that frequency coordination procedures under Section 90.175 would facilitate new licensee access into the 217-220 MHz band.

7. Issue: If we adopt a licensing scheme under which mutually exclusive applications are accepted for filing, we must resolve such mutually exclusive applications by competitive bidding.

   Comment: We feel that before two applications are considered "mutually exclusive" there must be an evaluation of whether another frequency band would satisfy either of their needs. If either one or both of the applicants' needs could be satisfied by another frequency band such as 450-470 MHz or 928-956 MHz, then the application should be disqualified. This additional protection within the 217-220 MHz band would ensure that the unique propagation characteristics of the band would be properly cultivated.

8. Issue: Additional comments on the petition by Data Flow Systems, Inc.

   Comment: We agree that reliable telemetry is needed and that the 217-220 MHz band is the best band based upon its physical characteristics. Furthermore we agree that reliable telemetry is very important and it needs to be a primary allocation within the 217-220 MHz band. However, we feel that water utilities are not the only important users within the band, nor do we feel that their need is as critical as public safety.

9. Issue: Additional comments on the petition by Securicor Wireless Holdings, Inc.

   Comment: We agree with Securicor that the band can be allocated in 5 KHz channels. We further feel that incumbents should be protected but if their uses could be satisfied with other higher bands that they would be encouraged to migrate.